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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/718,968

11/21/2003

Gregg Baeckler

15114-093700US

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26059 7590 10/08/2008
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EXAMINER

NGO, CHUONG D

ART UNIT

PAPER NUMBER

2193

MAIL DATE

DELIVERY MODE

10/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/718,968 | Applicant(s) BAECKLER ET AL. | |
| | Examiner Chuong D. Ngo | Art Unit 2193 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-17, 26-29 and 31-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-9 and 26-28 is/are allowed.
- 6) ☒ Claim(s) 10-17, 29 and 31-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 29 and 31-36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 29 and 31-36 are directed to a computer implemented method of calculation. In order for a claimed invention that is directed to such a computer implemented method of calculation to be statutory, the claimed invention must accomplish a practical application. That is the claimed invention must transform an article or physical object to a different state or thing, or produce a useful, concrete and tangible result. *State Street*, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Also see “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility”, MPEP 2106 and OG Notices: 22 November 2005. It is clear from claims 29 and 31-36 that the claims merely involves calculations and manipulations of data in performing calculations. The claimed invention does not transform an article or physical object to a different state or thing. The inputs are numbers and the outputs are also numbers. The result of the invention is merely a values without a practical application recited in the claims to make the result useful, concrete and tangible. Therefore, the claimed invention is directed to non-statutory subject matter as the claimed invention fails accomplish a practical application.

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rothman et al. (5,898,602).

As per claims 10,11,16 and 17, Rothman et al discloses in figure 4 a logic element (ALU1) including a hard wired adder (the EXOR gate that outputs S1), and an AND gate that is connected to C1 and that can be viewed as the claimed multiplexer for selecting between a signal determined in the logic element having a value 0 and a signal (C1) determined in a previous logic element for forwarding to the adder, wherein the AND gate corresponding to the claimed multiplexer selects C1 when the LE is set to operate in an addition of three binary numbers (A1,B1,C1) as claimed.

As per claims 12-15, Rothman et al also discloses in figure 4, the LE having a first logic circuit (15 and the EXOR gate that outputs S1) that determines a sum of an (n+ 1)-th bit of three binary numbers, the first logic circuit comprises a look-up table (15); and the previous LE having a second logic circuit including a look-up table (10) that determines a carry of an n-th bit

of three binary numbers. Noting that a 3:2 carry save adder process is the same as a full adder process as that of an ALU in figure 4.

6. Claims 10 and 11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cohen et al. (5,511,017).

Cohen et al. discloses in figure 6 a logic element (15,17,25 29,33,35) including a hardwire carry save adder (35, see also figures 3 and 4) and a multiplexer (33) for selecting between a signal (output of 17) determined in the logic element and a signal (output of 47) determined in a previous logic element (47,50,62,64,68) for forwarding to the adder as claimed. It should be noted that the adder (35) always perform an addition of three binary number at its three inputs, and thus the multiplexer (33) clearly selects the signal determined in the previous logic element when the logic element is set to operate in an addition of tree binary numbers mode as claimed.

7. Claims 12,13,16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al. (5,511,017) in view of Rothman et al. (5,898,602).

Cohen et al discloses in figure 4 a logic circuit including a first logic element (LE) having a CSA cell (32-0) for producing a carry (C0) from a first set of corresponding bits of at least three binary numbers (X,Y,Z); and a second LE having a CSA cell (32-1) for producing a sum (S1) from a second set of corresponding bits of the binary numbers and an hardwired adder (34-1) in the second logic element for adding the carry and the sum as claimed. It is noted that Cohen et al does not discloses the CSA cell in each LE having a first look-up table (LUT) for

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producing a carry and a second LUT for producing a sum. However, Rothman et al discloses in figures 5 and 6 an implementation of an adder cell (40), which have same function as that of a CSA cell, by programmable logic device having a first LUT (30) and a second LUT (50) for respectively producing a carry and a sum having the same functions as claimed (see also figure 7). It would have been obvious to a person of ordinary skill in the art to implement the CSA cells in Cohen et al. by programmable logic devices having a first LUT (30) for producing a carry and a second LUT (50) for producing a sum as taught by Rothman et al. in order to increase the flexibility of the logic circuit.

8. Claims 2-9 and 26-28 are allowed.

9. Applicant's arguments filed 06/24/2008 have been fully considered but they are not persuasive.

Regarding the rejection under 35 USC 101, it is respectfully submitted that for a process that merely performs calculations and manipulations of data to be statutory, beside the condition that the process must tied to a particular apparatus, the process must also produce a useful, concrete and tangible result. Since the claims fail to recite a practical application for the claimed process, the result produced by the invention is a mere number having no real word value, and thus is not a useful, concrete and tangible result. Therefore, it is respectfully submitted that the rejection of claims 29 and 31-36 und rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter is proper.

Regarding the rejection under 35 USC 102(b), Cohen, it is respectfully submitted that claim 10 does not require the selection of the multiplexer dependent on the operation al mode of the adder. Rather, it is only required that the multiplexer selects the signal determined in the previous LE when LE is set to operate in an addition of three binary numbers mode. The limitation is clearly met by Cohen in which the signal determined in the previous LE is selected by the multiplexer when the LE perform addition of three binary number as claimed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D. Ngo whose telephone number is (571) 272-3731. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis, Jr. A. Bullock can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Chuong D Ngo/
Primary Examiner, Art Unit 2193